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ABSTRACT

This study, a partial replication of an earlier study by B. Pitcher (1977), examined the validity of using initial, most recent, highest, and average scores in decisions about repeat takers of the Law School Admission Test (LSAT). The study included only schools that enrolled 50 or more first-year students who had taken the LSAT on more than 1 occasion, resulting in a sample of 46 schools. As was consistent with earlier studies, repeat LSAT takers tended to earn lower scores no matter which score was considered. Data show that using average scores for repeaters tends to result in validity coefficients that are equal to or higher than the coefficients obtained using any of the other score options, but the differences are small. As in previous studies, data support the use of the simple average score for law school applicants who present multiple test scores. A primary advantage is that this makes use of all the data available about a candidate. However, score users need to be sensitive to individual differences among test takers and evaluate multiple scores in the context of additional information. (Contains 4 figures, 12 tables, and 7 references.) (SLD)

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Fair and accurate treatment of multiple test scores for law-school applicants who take the Law School Admission Test more than one time was the subject of a number of research studies during the mid 1970s. The consistent conclusion from those studies is that the simple arithmetic average of multiple scores results in the most valid score and provides the best prediction of subsequent law school performance for repeat test takers. More than a decade has passed since the last repeater study was completed. During the intervening years, the content of the LSAT has changed substantially, test disclosure was introduced, coaching courses have increased in number and visibility, and many cohorts of law-school students have come and gone. The current study is a partial replication of an earlier study (Pitcher, 1977) so as to reexamine the validity and predictive accuracy of the different scores that are presented by repeat test takers. In particular, the study examined the validity of using (1) initial, (2) most recent, (3) highest, and (4) average score for repeaters.

The study includes only those schools that enrolled 50 or more first-year students who had taken the LSAT on more than one occasion, in order to assure stability in the validity estimates. Forty-six schools are included in the study sample. In addition to validity data, the study also provides descriptive data comparing one-time test takers with repeat test takers. Consistent with the earlier studies, repeat test takers tend to earn lower LSAT scores than one-time takers regardless of whether initial, most recent, highest, or average score is considered. Repeaters and one-time test takers tend to perform comparably in their undergraduate academic work, but one-time takers tend to earn higher first-year averages in law school than do repeaters.

Prediction equations developed from data from repeaters only are compared with prediction equations developed from data from first-time takers only. The least amount of difference between the equations is found when the average score is used for repeaters, while the largest number of differences is found as a result of using either highest or most recent score for repeaters. That is, when highest or most recent score is used, a prediction equation based on repeaters and one timers combined tends to slightly overpredict future law school performance for repeaters by about one fifth of the combined group standard deviation, or approximately one to 1.3 points on the standardized first-year grade scale.

Validity coefficients are presented for repeaters alone, for one-time takers alone, and for the total group, using first-year average in law school as the criterion variable and UGPA alone, LSAT alone, and UGPA and LSAT in combination as predictors. There is no evidence that including repeat test takers in the group results in lower validity estimates. The data show that using average score for repeaters tends to result in validity coefficients that are equal to or higher than the coefficients obtained using any of the other score options, but the differences are small. The data also show that using the combination of LSAT and UGPA results in higher validity coefficients than using either predictor alone. These results hold for each separate group as well as for the total combined group.

A primary practical concern for score users is "Which of the scores presented by repeat test takers will most accurately predict subsequent performance in law school?" Comparison of the predicted first-year average with the actual first-year average supported the advice that has historically been given. That is, in general, the arithmetic average of LSAT scores is the best predictor of performance in law school for repeat test takers. However, the data in this study, as in the previous study, demonstrate that this is not true for every applicant and that the differences obtained from using alternative score options are not dramatic. The data in the present study demonstrate that across law schools, the average score is the best predictor for the majority of schools and the initial score is the next best predictor.

As in previous repeater studies, the data support the use of the simple average score for law-school applicants who present multiple test scores. A primary advantage of the average score is that it makes use of all the data that are available about the applicant. Further, no other score has been found to be superior to it. The data in this and previous studies also underscore the need to consider individual circumstances when evaluating scores for repeat test takers. That is, although the aggregate statistics confirm that, overall, using the average score for repeaters provides higher validity coefficients and more accurate prediction of first-year grades, there are individual test takers for whom this is not the case. As important, there are examples in which one of the other score options would provide more accurate information about an individual applicant. In some instances, the initial score provides the best prediction, and intervening preparation results in a higher score that overpredicts subsequent law school performance. In others, the initial score does not accurately reflect the ability of the test taker and the test taker self-selected to repeat the test in order to obtain a more accurate reflection of his or her ability.

If a general rule that will be most fair to the majority of law-school applicants is to be applied, the data continue to support the recommendation of the average score for general use. Regardless, score users need to be sensitive to individual differences among test takers and evaluate multiple scores in the context of additional information.

Questions about how to treat multiple test scores for law-school applicants who have taken the Law School Admission Test (LSAT) on more than one occasion long have been of concern to law school admission committees. Corollary questions about whether to repeat the LSAT have been of concern to test takers. Repeat test taker topics were the subject of several LSAC/LSAS sponsored research studies in the mid to late 1970s (Wightman, 1975; Pitcher, 1977; Boldt, 1977: Linn, 1977). The early studies were designed to provide guidance to score users who needed to develop policies regarding the treatment of multiple test scores. The basic questions raised by LSAT score users were directed towards fundamental issues of fairness and accuracy. When a law-school applicant presents more than one LSAT score, which represents the fairest measure of the applicant's ability? Is the applicant's performance in law school more accurately predicted by the initial score, the most recent score, the highest score, or by some combination of the multiple scores?

The most comprehensive past research designed to answer the basic questions was conducted by Pitcher (1977). In general, the results from Pitcher's study suggest that a combination that uses information from each of the multiple scores provides better prediction than any of the single scores alone. Pitcher evaluated several ways of combining scores, but the more sophisticated and complex algorithms do not appear to provide any advantage over the simple arithmetic average. The author recommends averaging multiple scores for repeat test takers, with the appropriate caveats that aggregate data cannot provide information that is appropriate for each individual test taker.

The later research by Boldt (1977) attempts to improve on the average score for repeaters by applying theoretical and empirical adjustments to the average score. Applying the adjustments to repeaters' average scores scarcely varies the effectiveness of using the simple arithmetic average. The report by Linn (1977) summarized the findings from the previous studies and concludes that no alternative is apt to lead to substantial improvement over the use of the average. Linn suggests that there was little to be gained from continued tinkering with adjustments to the average and recommended that further research be suspended unless major changes in repeater test performance patterns or other circumstances occurred.

Admission personnel and others involved in the use of LSAT scores in the admission process have questioned whether the practice of averaging multiple test scores is still appropriate. Several events that have occurred since the completion of the Pitcher study suggest a need to replicate the study. That study used data from students who entered law school in the fall of 1973. The LSAT underwent significant changes in June 1982, including the introduction of a measure of analytical reasoning and the elimination of questions that tested quantitative-reasoning skills. In addition, major changes in test-disclosure policies were introduced at that time. These policies allow test takers ready access to intact LSAT forms prior to their first exposure to an actual test as well as access to information about their own performance that helps them analyze their strengths and weaknesses after they have taken the test. Partly as a consequence of test-disclosure policies, the quantity and quality of practice and test-preparation material far exceeds that which was available in the early 1970s. This includes the proliferation of commercial test preparation courses. Finally, the proportion of test takers who repeat the LSAT more than one time has grown somewhat. Among the 90 law schools whose records were processed by the 1972-73 Law School Validity Study Service, 14 percent of the students had taken the LSAT more than once. Among the 161 schools whose records were processed for the 1987-88 Correlation Studies, 18.5 percent of the students had taken the LSAT more than once.

The Pitcher study analyzed data separately by school for each school that had 50 or more repeaters. Her study includes data for 6,536 first-year students at 25 law schools in 1973-74. Sixty-eight percent of these students had one LSAT score, 28 percent had two scores, and 4 percent had three. This replication study uses the same criteria of 50 or more repeaters. Data for 13,371 first-year students in 1987-88 at 46 law schools were analyzed for the present study. Seventy-six percent of these students have one LSAT score, 22 percent have two scores, and 2 percent have three. These percents differ from the overall repeater rates because in order to achieve stable regression and correlation statistics, the replication study, like the original study, is limited to schools with 50 or more repeaters, whereas the total repeater percentages include all schools that participated in the correlation studies regardless of number of repeaters.

Despite the major changes in the LSAT, the changes in accessibility to practice material, and an increase in the percentage of repeat test takers among first-year law school students, the results of the replication study support the original recommendation that the arithmetic average of multiple test scores is more accurate for predicting first-year law school performance than any individual test score.

Methods

Sample

The sample used in this study was drawn from the pool of approximately 33,781 U.S. law school students whose records were used in the Correlation Studies for 161 U.S. law schools in July 1989. These students entered law school in the fall of 1987 and their first-year average is based on grades earned during the 1987-88 academic year.

Data were analyzed separately by law school for each law school that had 50 or more students who repeated the LSAT at least once. Among the 161 schools that participated in the 1989 Correlation Studies, 46 have 50 or more students with multiple LSAT scores.

LSAT Version

All students whose data are used in this study were tested with the version of the LSAT that included six 35-minute sections*. Two sections are variable sections that contained material that was used to pretest new questions or preequate new test forms. The variable sections do not contribute to the test taker's score. The other four sections contain items designed to measure verbal reasoning ability. The specific item type make-up is as follows:

Item Type	Number of Items	Time
Reading Comprehension	28	35 minutes
Logical Reasoning	26	35 minutes
Analytical Reasoning	24	35 minutes
Issues and Facts	40	35 minutes

A single LSAT score derived from the sum of the total number of questions answered correctly across the four sections is reported on a scale that ranges from 10 to 48.

Variables Used in the Study

The variables analyzed in this study are those that are currently used in the LSAC Correlation Studies: first-year average in law school (FYA), undergraduate grade-point average (UGPA), and LSAT score. Only students for whom data are available on each of the three variables are included in this study.

First-year Average. This variable is the average grade earned by the student in the first year of law school. First-year average was provided for each student by the individual law schools. Different law schools use different scales for first-year grades. Data analyses were conducted using FYA on the scale in which the school supplied it. In order to maintain the confidentiality of the individual schools and to allow direct comparison across law schools, FYA values were transformed to a scale having a mean of 50 and a standard deviation of 10. Results presented in this report are on the transformed 50/10 scale.

Undergraduate Grade-point Average. The average grade earned by each student during his or her undergraduate study was computed by the Law School Data Assembly Service (LSDAS) or according to LSDAS procedures, following the computing options selected for the undergraduate school the student attended. Grades computed in this manner are expressed on a scale of 0.00 to 4.33. The UGPAs used in these studies were the same as those used in the correlation studies carried out for the individual law schools.

LSAT Scores. Four different LSAT scores were analyzed for repeat test takers as part of this study: (1) the most recent LSAT score earned by the repeater, (2) the initial score of the two or three (three is the maximum number considered in this study), (3) the highest of the two or three scores, and (4) the average of the two or three scores. The 1973 study that is being partially replicated in this study analyzed data using these four scores plus three additional scores for repeaters. Two of these were obtained by subtracting fractions of the score change from the most recent score, and the third was simply the lowest score earned by the repeater. The more elaborate score adjustments do not provide any noticeable advantage over the simple arithmetic average and are therefore not replicated here. Likewise, use of the lowest score does not appear different from using the initial score and is not replicated here.

Analysis Methods

The primary focus of this study is the impact on validity of using different scores for LSAT repeaters. That is, does using different scores for repeaters enhance or diminish the predictive validity of the LSAT and, perhaps more importantly, what score(s) for repeaters most accurately predict their subsequent performance in law school? The same analyses that are used in the ongoing predictive validity studies for individual schools that participate in the LSAC Correlation Studies are used in this

* A revised LSAT that includes four 45-minute sections was introduced in June 1989. First-year averages for test takers who took the revised version will not be available until late fall 1991. Those first-year averages will be based on grades earned during the 1990-91 academic year.

in the LSAC Correlation Studies are used in this study. That is, least-squares regression analysis is used to predict first-year average from UGPA and the various LSAT scores for repeaters, as described above. The analyses are carried out separately by law school. For completeness, multiple regressions are also computed for the total group combined across law schools. Combined analyses use first-year averages scaled within a school. Whatever biases are inherent in this technique are reflected in the total group regression results presented in this study. Adjustments are not made for differences among law schools. It is worth noting that adjustments are not made for differences among undergraduate institutions when combining across undergraduate schools to analyze undergraduate grade-point averages. The acceptability of unadjusted undergraduate grades is supported by the findings reported by Rock and Evans (1982) that (1) much of the gain in prediction disappears when the adjusted grades are used in conjunction with the LSAT to predict FYA and (2) schools for which adjustment was successful in one year were not necessarily those for which adjustment was successful in a subsequent year.

For students who presented only one LSAT score, the data are the same for each comparison. For repeaters, each analysis is based on a different LSAT score: the average, the most recent, the initial, or the highest. Basic summary statistics (counts, means, and standard deviations) and simple correlations also are presented in order to compare repeaters with one-time test takers. The Gulliksen and Wilks regression tests for several samples (Gulliksen and Wilks, 1950) are applied to these repeater and one-timer data. Gulliksen and Wilks tests are used to determine whether the one-time test takers and the repeat test takers could be regarded as coming from populations with the same regression plane. In other words, can and should the same prediction equations be used with repeat test takers as are used for one-time test takers and can the data from the two groups be combined? This methodology tests for constancy of the standard error of estimate, constancy of slopes of regression lines (or planes), and equality of intercepts of regression lines (or planes) from sample to sample.

Results

The results from this study are presented in four sections. The first section includes descriptive data about the repeat test takers. Some descriptive data are also presented for one-time takers for comparative purposes. Results from the Gulliksen and Wilks tests comparing regression systems based on repeaters and one-time test takers within each school are reported in the second section. Validity coefficients derived using one-time takers, repeaters, combined groups, and various scores or score combinations for repeaters are presented in the third section. The results of applying the prediction equations derived using the total group data (repeaters and one-time takers combined) to repeat test takers are reported in the final section.

Descriptive Statistics

Descriptive statistics for the sample of students within the law schools used in this study are presented in Tables 1, 2, and 3. These data provide information about the proportion of repeat test takers represented in different entering classes, summarize the magnitude of score-gain realized by repeaters across different law schools, and allow comparison of LSAT performance, undergraduate grade-point average (UGPA), and performance in the first year of law school (FYA) between repeaters and one-time test takers.

Table 1 provides a listing of all the law schools that participated in the 1989 Correlation Studies and had 50 or more repeat test takers in their first-year class. Of the 13,371 students at the 46 schools, 10,105 (75.6 percent) have only one LSAT score and 3,266 (24.4 percent) have more than one score. The law schools are arranged in order according to the percentage of repeaters in the first-year class. The percentages range from 46.5 percent for law school 1 to 10.2 percent for law school 46. Although the percentage of first-year students who are repeaters is larger for the total 1987-88 cohort than for the total 1973-74 cohort, the combined percentage for the 46-school sample used in this study is somewhat smaller than the 32.1 percent repeaters found in the sample used in the original study.

Table 2 shows LSAT scaled-score means and standard deviations for one-time test takers and for most recent and initial LSAT scaled-score means and standard deviations for repeaters. It also shows the average score-gain for repeaters, where score-gain is defined as the difference between the most recent score and the initial score (i.e., Gain = Most Recent LSAT score - Initial LSAT score.) These data are shown separately by law school, and they are also pooled across schools. The data in Table 2 demonstrate that, within each law school, repeaters tend to be a lower-scoring group than the one-time test takers. The data in Table 2 also show that, on average, repeaters achieve an increase in score as a consequence of repeating the test. The average score-gains vary from school to school with repeaters at school 2 showing the smallest mean gain—1.5—while repeaters at school 17 gained an average of 5.2 score points. It is worth noting that

Table 1

Number and Percentage of LSAT Repeaters in Fall 1987 Entering Classes Limited to Law Schools with Fifty or More LSAT Repeaters (Data from LSAC Correlation Studies, Summer 1988)

Law School	Number of Students	Number of Repeaters	Percent LSAT Repeaters
1	157	73	46.5
2	166	65	39.2
3	128	50	39.1
4	214	83	38.8
5	137	53	38.7
6	138	51	37.0
7	162	58	35.8
8	420	150	35.7
9	156	55	35.3
10	347	115	33.1
11	292	90	30.8
12	209	61	29.2
13	262	74	28.2
14	333	94	28.2
15	270	76	28.1
16	245	68	27.8
17	221	61	27.6
18	329	90	27.4
19	258	68	26.4
20	190	50	26.3
21	202	53	26.2
22	246	64	26.0
23	232	60	25.9
24	201	50	24.9
25	489	120	24.5
26	372	91	24.5
27	330	79	23.9
28	399	93	23.3
29	219	51	23.3
30	254	58	22.8
31	320	73	22.8
32	421	95	22.6
33	250	56	22.4
34	376	83	22.1
35	395	87	22.0
36	337	74	22.0
37	291	63	21.6
38	234	50	21.4
39	263	55	20.9
40	317	66	20.8
41	280	50	17.9
42	603	100	16.6
43	409	56	13.7
44	382	50	13.1
45	426	54	12.7
46	489	50	10.2
Pooled data	13371	3266	24.4

Table 2

LSAT Means, Standard Deviations, and Score Gains for One-time Test Takers and for Repeaters

Law School	One-Time Takers		Repeaters				Difference[a]	Mean Gain
			Most Recent		Initial			
	Mean	S.D.	Mean	SD	Mean	SD		Repeaters
1	30.7	4.9	28.7	4.2	24.6	4.1	6.1	4.1
2	28.7	4.8	24.9	4.2	23.4	4.2	5.3	1.5
3	22.2	5.0	21.1	5.5	18.3	4.6	3.9	2.8
4	29.7	4.3	28.1	4.4	24.5	4.3	5.1	3.5
5	21.3	5.4	21.6	5.8	18.6	5.3	2.8	3.1
6	27.2	4.7	25.4	4.3	22.8	3.0	4.4	2.6
7	31.2	4.7	27.9	2.7	24.9	3.8	6.3	3.0
8	30.9	5.4	27.6	5.8	24.8	5.4	6.1	2.8
9	31.4	5.3	29.3	3.7	24.9	4.3	6.4	4.4
10	31.5	4.4	29.4	4.2	26.4	4.6	5.1	2.9
11	30.8	4.2	27.8	4.5	25.1	4.6	5.7	2.7
12	30.9	4.4	28.3	4.5	25.7	4.7	5.2	2.5
13	34.2	5.2	31.7	5.1	27.1	5.7	7.1	4.7
14	33.2	3.6	32.6	3.0	27.6	3.9	5.5	5.0
15	30.5	4.3	27.7	4.1	25.2	3.5	5.3	2.6
16	29.7	5.1	28.4	3.9	24.0	3.7	5.7	4.4
17	34.0	3.2	32.9	3.6	27.7	3.8	6.2	5.2
18	34.9	4.6	32.1	5.7	27.9	5.9	7.0	4.1
19	31.1	4.3	30.0	4.5	26.2	4.9	4.9	3.8
20	29.0	5.7	26.8	5.0	23.7	5.5	5.2	3.1
21	36.8	4.3	34.6	5.0	30.6	4.6	6.2	4.0
22	27.6	6.1	23.6	4.6	21.7	4.0	5.9	1.9
23	29.8	4.8	27.5	4.0	25.0	4.6	4.9	2.6
24	34.3	4.4	32.4	4.9	28.3	4.2	6.0	4.1
25	33.4	4.0	31.6	4.6	27.7	4.7	5.7	3.9
26	32.9	4.5	31.9	4.3	27.5	4.7	5.4	4.3
27	35.1	4.6	34.8	3.8	30.7	5.0	4.4	4.2
28	35.5	3.7	33.5	4.3	29.6	4.4	5.9	3.9
29	34.3	5.3	32.3	4.5	29.2	4.8	5.1	3.1
30	33.3	4.6	31.5	3.7	26.5	4.2	6.9	5.0
31	34.3	4.6	32.5	5.1	29.1	4.9	5.3	3.4
32	33.5	4.9	30.6	5.5	27.0	4.9	6.5	3.6
33	34.2	3.7	33.5	4.1	29.2	4.2	5.0	4.3
34	30.8	4.6	29.4	4.4	26.6	5.0	4.2	2.8
35	34.8	3.9	32.7	4.8	29.0	4.7	5.9	3.8
36	33.5	5.3	31.1	5.2	26.6	4.7	6.8	4.5
37	33.9	3.7	32.2	3.9	28.7	3.9	5.3	3.6
38	34.5	4.2	31.8	4.9	27.5	5.1	7.0	4.3
39	34.9	4.0	33.8	4.1	28.9	4.4	5.9	4.8
40	32.3	4.6	30.8	5.2	25.7	4.8	6.5	5.1
41	34.0	5.7	30.4	6.6	27.3	5.6	6.7	3.0
42	38.0	5.0	35.8	5.5	32.0	5.1	6.0	3.8
43	37.6	2.9	36.6	3.7	32.5	3.9	5.1	4.0
44	40.6	3.7	39.6	4.3	35.7	4.8	4.9	3.9
45	38.4	3.9	37.2	5.3	32.3	4.9	6.1	4.9
46	39.0	3.8	37.7	4.9	34.2	5.4	4.8	3.5
Pooled data	32.6	5.6	30.7	5.8	27.0	5.6	5.6	3.7

[a] Mean LSAT score for one-time test takers minus mean initial LSAT score for repeaters

repeaters traditionally are a self-selected group who, for the most part, choose to repeat the test because they believe the initial score does not reflect their true ability. The average score-change for repeaters is an increase of 3.7 scaled score-points. These data are consistent with the LSAT score patterns for repeaters and one-time test takers that are reported by Pitcher (1977). Gain scores reported by Pitcher are on the 200-800 scale, but the average gain is approximately .65 standard deviations in each study. The average increase of 3.7 scaled score-points represents only repeaters who became first-year law school students. The overall gain among all test takers who are repeaters tends to be lower; it is 2.90 for 1987-88 test takers.

Despite the fact that repeat test takers, on the average, increase their LSAT performance, even their increased scores tend to be lower than those earned by one-time test takers. Table 2 includes the difference between the mean score earned by one-time test takers and the mean initial score earned by repeat test takers. Comparison of this difference with the mean gain earned by repeaters shows that the average gain earned by repeaters is less than the difference between the initial scores earned by repeaters and one-time takers. In other words, even though repeaters tend to increase their LSAT scores, the amount of the increase is not enough to make the repeaters' average increased scores as high as the one-time test takers' average scores. Across all schools, the mean score-gain for repeaters is about two scaled score-points less than the difference between one-time test takers' scores and repeaters' initial scores. The magnitude of the difference varies among individual schools, but only school 5 showed a mean gain for repeaters that exceeded the difference between one-timers' scores and repeaters' initial scores.

In general, one-time test takers tend to earn higher LSAT scores than repeat test takers regardless of whether initial, most recent, highest, or average score is considered for repeaters. This is true within individual schools as well as for the data pooled across schools. This can be confirmed by comparing the mean LSAT scores for one-time takers with the mean scores for repeaters shown in Table 2 (most recent and initial score) and in Table 3 (highest score). Among the schools examined in this study, in only one school was the mean of the highest scores earned by repeaters virtually identical to the mean for one-time takers and in one school the mean of the highest scores is 1.3 higher than the mean for one-time takers.

Table 3 also presents mean undergraduate grade-point average and first-year law school grade-point average separately for one-time test takers and repeaters by law school. The two groups tend to perform comparably in their undergraduate academic work, but the one-time test takers tend to earn higher first-year averages than do their classmates who are repeat test takers. Repeaters have an equal or higher undergraduate grade-point average than do the one-time takers in 20 of the 46 law schools studied, and the unweighted mean undergraduate grade-point average of one-time test takers exceeds that of repeaters by only .08. The results are more disparate for first-year average in law school. In only one of the 46 schools examined in this study does the mean first-year average for repeaters exceed the mean for one-time takers. The difference for this law school (number 46) is 0.4, and the standard deviation is slightly larger for repeaters than for one-time test takers. These results are consistent with those reported in the earlier study. That is, the data reported in that study show that the repeater groups generally achieved lower grades in law school than did their nonrepeater counterparts, but that repeaters and one-time test takers earn comparable undergraduate grade-point averages.

Regression Tests for Repeaters and One-time Test Takers

The results from the Gulliksen and Wilks regression tests comparing repeaters and one-time test takers are shown in Tables 4 and 5 and in Figures 1 through 4. In each set of tests, UGPA and LSAT are used to predict FYA. An analysis of variance technique that can be derived from the Neyman-Pearson likelihood ratio test theory is used to test three hypotheses: equality of errors of estimate, of slopes, and of intercepts (H_a , H_b , and H_c .) The regression tests are repeated four times, each using a different score for repeaters. The results from using the highest and lowest scores for repeaters are presented in Table 4; the results from using the most recent and the average scores for repeaters are shown in Table 5. The UGPA and the single LSAT score are used for one-time test takers in each comparison.

H_a represents the hypothesis that the population standard errors of estimate are all equal regardless of the values of the slope and intercept of the regression line or plane. H_b represents the hypothesis that the slopes of the regression lines (planes) are equal regardless of the values of the intercepts. The test for H_b assumes that H_a is true. Finally, H_c represents the hypothesis that the regression intercepts are equal, assuming H_b is true. The hypotheses are tested separately for each repeater score option within each law school. Hypotheses tested subsequent to a prerequisite hypothesis that was not true are shown in parentheses since the results from such tests are ambiguous. Results from ambiguous tests are not included in the figures.

Table 3

Means and Standard Deviations of UGPA, LSAT, and FYA for One-time Takers and Repeaters

Law School	Undergraduate Average				LSAT Score[a]				First-year Average[b]			
	One-timer		Repeater		One-timer		Repeater		One-timer		Repeater	
	Mean	S.D.	Mean	S.D.	Mean	SD	Mean	SD	Mean	S.D.	Mean	S.D.
1	2.81	0.42	2.86	0.37	30.7	4.9	29.2	4.1	50.9	10.8	49.1	9.0
2	2.79	0.34	2.82	0.31	28.7	4.8	25.8	3.7	51.1	9.4	47.9	10.6
3	2.76	0.37	2.74	0.36	22.2	5.0	21.9	5.0	51.1	9.9	48.8	10.0
4	2.75	0.46	2.68	0.36	29.7	4.3	28.5	4.0	51.2	10.8	48.0	8.3
5	2.58	0.41	2.49	0.39	21.3	5.4	22.6	5.5	50.6	10.1	49.1	9.8
6	2.78	0.36	2.82	0.31	27.2	4.7	26.2	3.6	51.9	9.5	46.8	10.2
7	2.95	0.42	2.90	0.34	31.2	4.7	28.6	2.2	51.8	10.1	47.3	8.8
8	3.07	0.37	3.01	0.40	30.9	5.4	28.3	5.2	51.7	9.7	46.8	9.5
9	2.77	0.42	2.77	0.40	31.4	5.3	29.5	3.6	51.6	10.5	47.1	8.4
10	2.87	0.40	2.80	0.38	31.5	4.4	30.0	3.9	50.9	10.4	48.1	9.0
11	2.90	0.39	2.84	0.42	30.8	4.2	28.6	4.1	51.2	10.1	47.5	9.2
12	2.81	0.41	2.79	0.34	30.9	4.4	29.5	3.5	50.9	10.1	47.6	9.6
13	3.07	0.43	3.11	0.43	34.2	5.2	32.1	4.9	51.1	9.9	47.3	9.8
14	2.99	0.33	2.89	0.28	33.2	3.6	32.8	3.0	50.9	9.9	47.8	9.9
15	2.94	0.37	2.99	0.32	30.5	4.3	28.3	3.6	51.4	9.6	46.2	10.2
16	2.82	0.41	2.88	0.37	29.7	5.1	28.7	3.6	51.0	9.8	47.5	10.3
17	3.05	0.38	2.97	0.34	34.0	3 2	33.1	3.4	50.9	10.1	47.6	9.5
18	3.16	0.33	3.23	0.31	34.9	4.6	32.3	5.5	51.3	9.2	46.9	11.0
19	2.89	0.42	2.93	0.37	31.1	4.3	30.3	4.1	50.4	10.1	48.7	9.6
20	2.86	0.40	2.78	0.52	29.0	5.7	27.6	4.4	50.8	10.3	47.7	8.8
21	3.31	0.34	3.31	0.38	36.8	4.3	34.9	4.7	50.7	9.7	48.2	10.8
22	2.75	0.46	2.53	0.38	27.6	6.1	24.5	4.0	51.2	10.4	46.5	7.7
23	2.91	0.42	2.81	0.42	29.8	4.8	28.2	3.6	50.8	10.0	47.5	10.0
24	3.16	0.40	3.11	0.35	34.3	4.4	32.8	4.6	50.4	10.0	48.4	9.9
25	3.06	0.34	2.98	0.41	33.4	4.0	32.0	4.4	50.7	10.4	47.8	8.5
26	2.90	0.44	2.85	0.38	32.9	4.5	32.2	4.0	51.0	10.1	46.9	9.2
27	3.04	0.44	3.06	0.42	35.1	4.6	35.1	3.8	50.6	9.9	48.1	10.2
28	3.11	0.35	3.08	0.29	35.5	3.7	33.8	4.1	50.9	9.7	47.2	10.7
29	3.14	0.42	3.18	0.37	34.3	5.3	32.9	4.3	50.4	10.0	49.0	10.1
30	2.88	0.40	2.97	0.39	33.3	4.6	31.7	3.5	51.2	10.0	45.9	9.1
31	3.17	0.34	3.13	0.37	34.3	4.6	32.9	4.8	50.8	9.9	47.1	10.0
32	3.13	0.43	3.12	0.40	33.5	4.9	31.0	5.2	51.0	10.2	46.8	8.8
33	3.07	0.35	3.07	0.31	34.2	3.7	33.7	3.9	50.9	10.1	47.1	9.4
34	2.85	0.41	2.79	0.39	30.8	4.6	30.1	4.1	50.6	10.0	48.0	9.7
35	3.16	0.36	3.15	0.35	34.8	3.9	33.2	4.4	51.0	9.5	46.5	10.9
36	3.20	0.37	3.14	0.38	33.5	5.3	31.6	4.8	50.9	9.8	46.9	10.2
37	2.94	0.38	3.01	0.29	33.9	3.7	32.5	3.7	51.1	10.0	46.1	9.2
38	3.13	0.36	3.09	0.32	34.5	4.2	32.1	4.4	51.2	9.6	45.1	10.0
39	3.08	0.36	3.01	0.34	34.9	4.0	34.3	3.7	50.0	10.2	50.0	9.2
40	2.90	0.44	2.93	0.38	32.3	4.6	31.1	5.1	51.0	10.0	46.3	9.4
41	3.08	0.44	3.03	0.44	34.0	5 7	30.7	6.3	50.6	9.7	47.5	11.0
42	3.36	0.36	3.34	0.37	38.0	5.0	36.3	5.2	50.4	10.0	48.1	9.8
43	3.31	0.26	3.32	0.31	37.6	2.9	36.7	3.7	50.2	10.0	49.0	10.2
44	3.53	0.24	3.57	0.22	40.6	3.7	39.9	4.1	50.2	10.2	48.3	8.6
45	3.18	0.32	3.21	0.31	38.4	3.9	37.3	5.0	50.5	9.9	47.4	10.1
46	3.44	0.34	3.44	0.37	39.0	3.8	38.2	4.5	50.0	9.9	50.4	10.9
Pooled data	3.07	0.43	2.99	0.42	33.7	5.6	31.2	5.5	50.8	10.0	47.5	9.6

[a] LSAT score shown for repeaters is the highest.

[b] First-year average has been converted to a mean of 50 and an s.d. of 10 for the total group (repeaters and one-timers combined) at each school

Table 4

Results from Gulliksen/Wilks Regression Tests for Repeaters and One-timers Using Combinations of UGPA with Initial and Highest LSAT Scores

Law School	Number of One-timers	Number of Repeaters	UGPA and Initial LSAT			UGPA and Highest LSAT		
			H_a	H_b	H_c	H_a	H_b	H_c
1	168	51	n.s.	n.s.	*	n.s.	n.s.	n.s.
2	196	58	n.s.	n.s.	n.s.	**	(n.s.)	(**)
3	131	83	**	(n.s.)	(n.s.)	n.s.	n.s.	n.s.
4	177	62	n.s.	n.s.	n.s.	n.s.	n.s.	*
5	87	51	n.s.	n.s.	n.s.	n.s.	n.s.	**
6	181	65	n.s.	**	(n.s.)	n.s.	*	(n.s.)
7	98	68	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
8	306	93	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
9	148	53	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
10	247	73	*	(**)	(n.s.)	n.s.	*	(n.s.)
11	238	95	n.s.	n.s.	*	n.s.	n.s.	n.s.
12	332	50	n.s.	n.s.	n.s.	*	(n.s.)	(n.s.)
13	308	87	n.s.	n.s.	n.s.	n.s.	n.s.	**
14	259	161	n.s.	n.s.	n.s.	n.s.	n.s.	**
15	104	58	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
16	263	74	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
17	184	50	n.s.	n.s.	n.s.	n.s.	n.s.	**
18	251	79	n.s.	n.s.	n.s.	n.s.	n.s.	*
19	372	54	**	(n.s.)	(*)	**	(n.s.)	(n.s.)
20	202	90	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
21	369	120	**	(n.s.)	(*)	**	(n.s.)	(n.s.)
22	96	60	*	(n.s.)	(n.s.)	n.s.	n.s.	n.s.
23	194	76	n.s.	n.s.	n.s.	n.s.	n.s.	**
24	148	61	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
25	281	91	n.s.	n.s.	n.s.	n.s.	n.s.	**
26	194	56	**	(n.s.)	(n.s.)	*	(n.s.)	(**)
27	290	86	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
28	230	50	n.s.	n.s.	**	n.s.	n.s.	n.s.
29	208	55	n.s.	n.s.	**	n.s.	n.s.	n.s.
30	239	90	n.s.	**	(n.s.)	n.s.	n.s.	*
31	228	63	n.s.	n.s.	n.s.	n.s.	n.s.	**
32	232	115	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
33	502	101	n.s.	n.s.	**	n.s.	n.s.	n.s.
34	352	57	*	(n.s.)	(**)	n.s.	n.s.	n.s.
35	78	50	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
36	84	73	n.s.	n.s.	n.s.	**	(n.s.)	(n.s.)
37	172	60	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
38	189	68	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
39	148	54	*	(n.s.)	(*)	n.s.	n.s.	n.s.
40	324	97	n.s.	n.s.	n.s.	*	(n.s.)	(n.s.)
41	153	68	n.s.	n.s.	*	n.s.	n.s.	n.s.
42	140	50	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
43	251	66	n.s.	n.s.	n.s.	n.s.	n.s.	**
44	84	53	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
45	187	75	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
46	439	59	*	(n.s.)	(**)	n.s.	n.s.	n.s.

Note. ( ) denotes ambiguity due to significance of previous test.

*$p_i < .05$, two-tailed. **$p_i < .01$, two-tailed.

Table 5

Results from Gulliksen/Wilks Regression Tests for Repeaters and One-timers Using Combinations of UGPA with Most Recent and Average LSAT Scores

Law School	Number of One-timers	Number of Repeaters	UGPA and Most Recent LSAT H_a	H_b	H_c	UGPA and Average LSAT H_a	H_b	H_c
1	168	51	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
2	196	58	n.s.	n.s.	**	n.s.	n.s.	n.s.
3	131	83	**	(n.s.)	(n.s.)	**	(n.s.)	(n.s.)
4	177	62	n.s.	n.s.	*	n.s.	n.s.	n.s.
5	87	51	n.s.	n.s.	*	n.s.	n.s.	n.s.
6	181	65	n.s.	*	(n.s.)	n.s.	*	(n.s.)
7	98	68	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
8	306	93	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
9	148	53	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
10	247	73	n.s.	*	(n.s.)	n.s.	*	(n.s.)
11	238	95	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
12	332	50	*	(n.s).	(n.s).	*	(n.s.)	(n.s.)
13	308	87	n.s.	n.s.	*	n.s.	n.s.	n.s.
14	259	161	n.s.	n.s.	*	n.s.	n.s.	n.s.
15	104	58	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
16	263	74	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
17	184	50	n.s.	n.s.	*	n.s.	n.s.	n.s.
18	251	79	n.s.	n.s.	*	n.s.	n.s.	n.s.
19	372	54	**	(n.s.)	(n.s.)	**	(n.s.)	(n.s.)
20	202	90	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
21	369	120	**	(n.s.)	(n.s.)	**	(n.s.)	(n.s.)
22	96	60	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
23	194	76	n.s.	n.s.	**	n.s.	n.s.	n.s.
24	148	61	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
25	281	91	n.s.	n.s.	**	n.s.	n.s.	n.s.
26	194	56	*	(n.s.)	(*)	*	(n.s.)	(n.s.)
27	290	86	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
28	230	50	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
29	208	55	n.s.	n.s.	n.s.	n.s.	n.s.	*
30	239	90	n.s.	**	(*)	n.s.	**	(n.s.)
31	228	63	n.s.	n.s.	**	n.s.	n.s.	n.s.
32	232	115	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
33	502	101	n.s.	n.s.	n.s.	n.s.	n.s.	*
34	352	57	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
35	78	50	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
36	84	73	**	(n.s.)	(n.s.)	**	(n.s.)	(n.s.)
37	172	60	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
38	189	68	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
39	148	54	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
40	324	97	*	(n.s.)	(n.s.)	*	(n.s.)	(n.s.)
41	153	68	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
42	140	50	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
43	251	66	n.s.	n.s.	**	n.s.	n.s.	n.s.
44	84	53	n.s.	*	(n.s.)	n.s.	n.s.	n.s.
45	187	75	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
46	439	59	n.s.	n.s.	n.s.	n.s.	n.s.	*

Note. ( ) denotes ambiguity due to significance of previous test.

*$p_c < .05$, two-tailed. **$p_c < .01$, two-tailed.

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The regression systems are found to be significantly different in 72 of the 184 analyses. Almost half of the significances are attributable to nine of the 46 schools (numbers 6, 10, 12, 19, 21, 26, 30, 36, and 40). The least number of significant differences are found using average scores for repeaters, suggesting that using the same regression system for both repeaters and first-time takers is most appropriate when average score is used for repeaters. Using highest or most recent score identified the largest numbers of significantly different systems. The school-by-school results were very nearly, but not identically, the same for these latter two analyses.

The results of these analyses raise important practical questions about the impact of combining repeaters and one-timers for validity studies. Additional analyses were conducted to evaluate the impact of combining the groups, as opposed to using separate regression systems, on overall validity estimates. Finally, analyses were completed to evaluate the impact of predicting performance in law school for repeaters using a regression equation developed from combined data. The results are presented in the following two sections of this report.

Figure 1

Summary of Results from Gulliksen/Wilks Regression Tests Using Combination of UGPA and Initial LSAT Scores

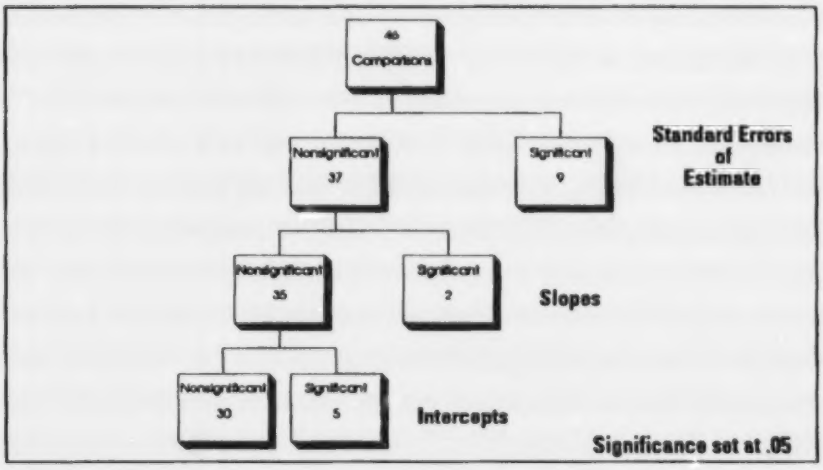
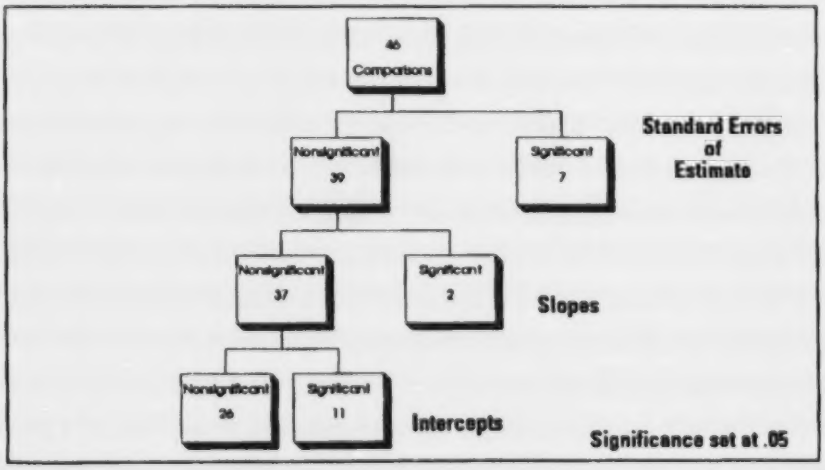


Figure 2

Summary of Results from Gulliksen/Wilks Regression Tests Using Combination of UGPA and Highest LSAT Scores



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Validity Data

Tables 6 through 8 show validity data for repeaters, for one-time test takers, and for the total group (repeaters and one-timers combined.)

Perhaps of greater interest is the impact on overall validity estimates from using different scores for repeaters when including both UGPA and LSAT in a multiple prediction equation. Table 6 shows the validity coefficients obtained from using different samples and different score options for repeat test takers.

The validity coefficients are the correlations of first-year average with one or more predictor variables. The simple correlations of first-year grades in law school with UGPA alone and with LSAT alone for repeaters, for one-time test takers, and for the total group at each of the 46 law schools are shown in Table 6. Multiple correlations for UGPA and LSAT with first-year average are also shown. Both simple and multiple correlations that include LSAT score for repeaters were calculated for each LSAT score option—most recent, initial, average, and highest. These data can be used to evaluate whether any of the different score options for repeaters affects the validity coefficient. The data in Table 6 also can

Figure 3

Summary of Results from Gulliksen/Wilks Regression Tests Using Combination of UGPA and Most Recent LSAT Scores

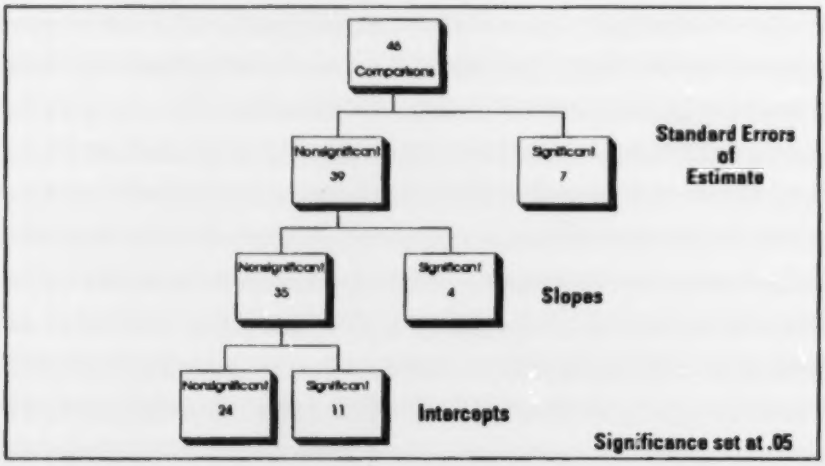

Figure 4

Summary of Results from Gulliksen/Wilks Regression Tests Using Combination of UGPA and Average LSAT Scores

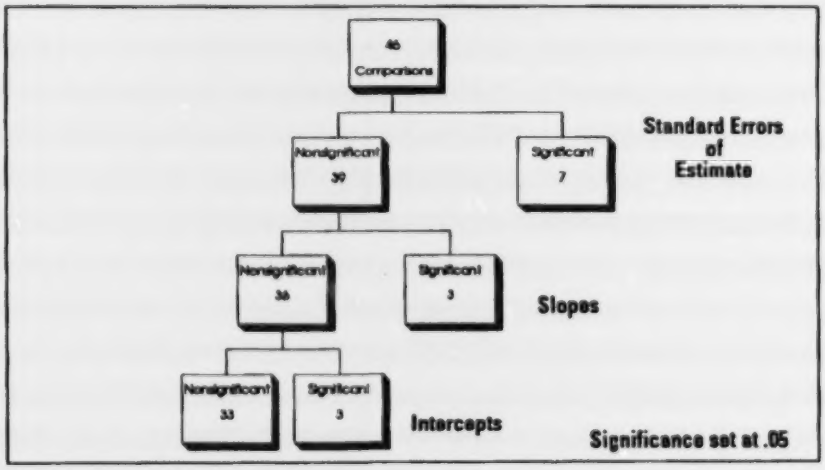

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Table 6

Validity of Undergraduate Grade-Point Average (UGPA) and LSAT Scores for One-time Takers and Repeaters

Law School	Group		Correlation of First-year Grades in Law School with: UGPA Alone	LSAT Alone: Most Recent	LSAT Alone: Initial	LSAT Alone: Avg.	LSAT Alone: Highest	UGPA and LSAT: Most Recent	UGPA and LSAT: Initial	UGPA and LSAT: Avg.	UGPA and LSAT: Highest
1	84	One-timer	0.39	0.36				0.52			
	73	Repeater	0.40	0.32	0.26	0.33	0.35	0.60	0.50	0.59	0.62
	157	Total	0.38	0.35				0.55	0.51	0.55	0.56
2	101	One-timer	0.22	0.18				0.30			
	65	Repeater	-0.04	0.36	0.37	0.38	0.28	0.36	0.37	0.38	0.28
	166	Total	0.11	0.28				0.32	0.33	0.33	0.29
3	78	One-timer	0.24	0.16				0.36			
	50	Repeater	0.18	0.17	0.26	0.24	0.29	0.26	0.34	0.32	0.37
	128	Total	0.22	0.17				0.32	0.36	0.35	0.36
4	131	One-timer	0.32	0.29				0.42			
	83	Repeater	0.39	0.18	0.36	0.29	0.17	0.46	0.56	0.53	0.46
	214	Total	0.35	0.27				0.44	0.48	0.47	0.44
5	84	One-timer	0.28	0.36				0.49			
	53	Repeater	0.12	0.25	0.40	0.35	0.34	0.33	0.47	0.44	0.43
	137	Total	0.23	0.31				0.44	0.48	0.48	0.46
6	87	One-timer	0.21	0.39				0.44			
	51	Repeater	0.26	0.41	0.15	0.37	0.35	0.57	0.33	0.54	0.52
	138	Total	0.21	0.42				0.49	0.44	0.48	0.45
7	104	One-timer	0.14	0.54				0.55			
	58	Repeater	0.29	0.18	0.05	0.16	0.16	0.39	0.29	0.36	0.38
	162	Total	0.19	0.49				0.52	0.47	0.52	0.52
8	270	One-timer	0.27	0.49				0.56			
	150	Repeater	0.35	0.50	0.57	0.58	0.54	0.56	0.60	0.62	0.59
	420	Total	0.32	0.53				0.58	0.60	0.61	0.59
9	101	One-timer	0.45	0.57				0.66			
	55	Repeater	0.20	0.33	0.58	0.54	0.33	0.47	0.65	0.65	0.48
	156	Total	0.37	0.53				0.63	0.66	0.66	0.63
10	232	One-timer	0.27	0.37				0.49			
	115	Repeater	0.20	0.06	0.22	0.16	0.13	0.24	0.32	0.30	0.28
	347	Total	0.26	0.30				0.43	0.45	0.45	0.45
11	202	One-timer	0.10	0.36				0.40			
	90	Repeater	0.16	0.29	0.39	0.39	0.37	0.37	0.42	0.44	0.44
	292	Total	0.12	0.37				0.42	0.43	0.44	0.44
12	148	One-timer	0.18	0.48				0.50			
	61	Repeater	0.25	0.29	0.31	0.40	0.35	0.40	0.40	0.48	0.45
	209	Total	0.20	0.44				0.48	0.48	0.51	0.49
13	188	One-timer	0.32	0.46				0.57			
	74	Repeater	0.13	0.49	0.41	0.52	0.52	0.51	0.42	0.53	0.54
	262	Total	0.26	0.48				0.55	0.53	0.57	0.56
14	239	One-timer	0.18	0.33				0.40			
	94	Repeater	-0.02	0.30	0.35	0.40	0.34	0.30	0.35	0.41	0.34
	333	Total	0.14	0.33				0.37	0.38	0.41	0.38

(table continues)

Table 6 (con't.)

Law School		Group	Correlation of First-year Grades in Law School with: UGPA Alone	LSAT Alone: Most Recent	LSAT Alone: Initial	LSAT Alone: Avg.	LSAT Alone: Highest	UGPA and LSAT: Most Recent	UGPA and LSAT: Initial	UGPA and LSAT: Avg.	UGPA and LSAT: Highest
15	194	One-timer	0.31	0.30				0.45			
	76	Repeater	0.09	0.34	0.35	0.41	0.40	0.39	0.46	0.47	0.45
	270	Total	0.23	0.36				0.46	0.49	0.48	0.46
16	177	One-timer	0.13	0.41				0.46			
	68	Repeater	0.35	0.08	0.31	0.23	0.09	0.36	0.43	0.40	0.37
	245	Total	0.17	0.33				0.41	0.47	0.46	0.42
17	160	One-timer	0.25	0.32				0.45			
	61	Repeater	0.14	0.21	0.39	0.37	0.22	0.31	0.46	0.46	0.32
	221	Total	0.24	0.30				0.43	0.44	0.47	0.43
18	239	One-timer	-0.02	0.43				0.44			
	90	Repeater	0.38	0.46	0.48	0.50	0.47	0.59	0.61	0.62	0.60
	329	Total	0.07	0.47				0.50	0.51	0.52	0.50
19	190	One-timer	0.22	0.29				0.37			
	68	Repeater	0.14	0.44	0.32	0.40	0.42	0.48	0.35	0.43	0.45
	258	Total	0.20	0.34				0.40	0.37	0.39	0.39
20	140	One-timer	0.42	0.50				0.58			
	50	Repeater	0.42	0.54	0.47	0.59	0.58	0.58	0.58	0.63	0.61
	190	Total	0.42	0.52				0.59	0.59	0.60	0.59
21	149	One-timer	0.30	0.55				0.60			
	53	Repeater	0.41	0.43	0.37	0.46	0.42	0.54	0.51	0.56	0.55
	202	Total	0.33	0.52				0.58	0.56	0.59	0.59
22	182	One-timer	0.30	0.44				0.51			
	64	Repeater	-0.28	0.25	0.01	0.22	0.25	0.32	0.29	0.31	0.33
	246	Total	0.23	0.44				0.49	0.47	0.49	0.49
23	172	One-timer	0.14	0.40				0.43			
	60	Repeater	0.18	0.29	0.12	0.22	0.26	0.38	0.23	0.32	0.36
	232	Total	0.16	0.39				0.43	0.39	0.42	0.43
24	151	One-timer	0.30	0.30				0.44			
	50	Repeater	0.17	0.22	0.09	0.19	0.20	0.36	0.23	0.33	0.34
	201	Total	0.27	0.29				0.43	0.40	0.42	0.43
25	369	One-timer	0.20	0.35				0.41			
	120	Repeater	0.22	0.46	0.44	0.50	0.49	0.49	0.46	0.52	0.52
	489	Total	0.21	0.38				0.43	0.42	0.44	0.44
26	281	One-timer	0.25	0.40				0.49			
	91	Repeater	0.37	0.32	0.38	0.39	0.36	0.47	0.55	0.54	0.49
	372	Total	0.28	0.39				0.49	0.52	0.52	0.49
27	251	One-timer	0.24	0.42				0.51			
	79	Repeater	0.15	0.32	0.40	0.43	0.33	0.38	0.43	0.47	0.39
	330	Total	0.21	0.40				0.48	0.49	0.50	0.48
28	306	One-timer	0.30	0.31				0.43			
	93	Repeater	0.20	0.23	0.21	0.26	0.23	0.35	0.30	0.35	0.34
	399	Total	0.28	0.31				0.43	0.42	0.43	0.42

(table continues)

Table 6 (con't.)

Law School	Group	UGPA Alone	Correlation of First-year Grades in Law School with: LSAT Alone: Most Recent	LSAT Alone: Initial	LSAT Alone: Avg.	LSAT Alone: Highest	UGPA and LSAT: Most Recent	UGPA and LSAT: Initial	UGPA and LSAT: Avg.	UGPA and LSAT: Highest
29	168 One-timer	0.46	0.59				0.65			
	51 Repeater	0.41	0.61	0.54	0.62	0.62	0.66	0.60	0.66	0.67
	219 Total	0.45	0.60				0.65	0.63	0.65	0.65
30	196 One-timer	0.25	0.47				0.54			
	58 Repeater	0.36	0.25	0.33	0.36	0.27	0.43	0.46	0.48	0.43
	254 Total	0.25	0.45				0.52	0.55	0.56	0.52
31	247 One-timer	0.20	0.46				0.52			
	73 Repeater	0.25	0.44	0.28	0.39	0.41	0.47	0.33	0.42	0.44
	320 Total	0.22	0.47				0.51	0.48	0.51	0.51
32	326 One-timer	0.27	0.46				0.54			
	95 Repeater	0.19	0.49	0.39	0.48	0.48	0.56	0.48	0.55	0.55
	421 Total	0.25	0.49				0.56	0.55	0.56	0.56
33	194 One-timer	0.37	0.34				0.54			
	56 Repeater	0.24	0.48	0.41	0.52	0.50	0.49	0.44	0.53	0.51
	250 Total	0.34	0.38				0.52	0.53	0.54	0.52
34	293 One-timer	0.19	0.38				0.46			
	83 Repeater	0.26	0.37	0.56	0.54	0.41	0.48	0.62	0.62	0.52
	376 Total	0.22	0.39				0.47	0.50	0.50	0.48
35	308 One-timer	0.27	0.37				0.43			
	87 Repeater	0.27	0.36	0.37	0.42	0.39	0.42	0.44	0.47	0.44
	395 Total	0.27	0.39				0.44	0.46	0.47	0.44
36	263 One-timer	0.27	0.42				0.50			
	74 Repeater	0.37	0.27	0.35	0.33	0.28	0.46	0.50	0.50	0.47
	337 Total	0.30	0.40				0.50	0.52	0.52	0.50
37	228 One-timer	0.19	0.34				0.42			
	63 Repeater	0.20	0.34	0.37	0.37	0.34	0.37	0.38	0.38	0.37
	291 Total	0.17	0.37				0.42	0.45	0.45	0.42
38	184 One-timer	0.34	0.37				0.51			
	50 Repeater	0.25	0.50	0.53	0.56	0.50	0.55	0.56	0.60	0.56
	234 Total	0.32	0.44				0.54	0.56	0.56	0.54
39	208 One-timer	0.28	0.31				0.44			
	55 Repeater	0.10	0.26	0.37	0.40	0.31	0.30	0.37	0.41	0.35
	263 Total	0.25	0.30				0.41	0.37	0.41	0.42
40	251 One-timer	0.26	0.36				0.51			
	66 Repeater	-0.10	0.45	0.46	0.47	0.41	0.49	0.46	0.50	0.44
	317 Total	0.19	0.39				0.51	0.51	0.53	0.50
41	230 One-timer	0.34	0.55				0.63			
	50 Repeater	0.46	0.59	0.63	0.64	0.60	0.70	0.72	0.73	0.70
	280 Total	0.36	0.57				0.65	0.64	0.65	0.65
42	503 One-timer	0.31	0.53				0.59			
	100 Repeater	0.38	0.61	0.56	0.64	0.62	0.63	0.60	0.66	0.64
	603 Total	0.32	0.55				0.60	0.58	0.60	0.60

(table continues)

Table 6 (con't.)

Law School	Group		Correlation of First-year Grades in Law School with: UGPA Alone	LSAT Alone: Most Recent	LSAT Alone: Initial	LSAT Alone: Avg.	LSAT Alone: Highest	UGPA and LSAT: Most Recent	UGPA and LSAT: Initial	UGPA and LSAT: Avg.	UGPA and LSAT: Highest
43	353	One-timer	0.12	0.37				0.40			
	56	Repeater	0.33	0.56	0.33	0.49	0.55	0.63	0.44	0.57	0.63
	409	Total	0.15	0.40				0.44	0.37	0.42	0.44
44	332	One-timer	0.05	0.35				0.36			
	50	Repeater	0.01	0.58	0.50	0.59	0.60	0.58	0.51	0.60	0.60
	382	Total	0.04	0.38				0.38	0.37	0.39	0.39
45	372	One-timer	0.10	0.36				0.43			
	54	Repeater	0.01	0.37	0.45	0.44	0.41	0.37	0.45	0.44	0.42
	426	Total	0.08	0.37				0.42	0.42	0.43	0.43
46	439	One-timer	0.26	0.38				0.47			
	50	Repeater	0.31	0.53	0.54	0.60	0.54	0.62	0.59	0.66	0.63
	489	Total	0.27	0.39				0.48	0.46	0.48	0.48

be used to determine whether validity would be higher using only scores from one-time takers than from combining data from the two groups of students. Correlations between FYA and LSAT-score alone, for the total group, only used average score for repeaters.

The simple correlation between FYA and LSAT using average score for repeaters is higher for repeaters (28 schools) more frequently than for one-timers (17 schools). The correlations for the two groups separately are identical for one school. Where differences are observed, they tend to be small. The difference exceeds .2 for only six schools. Among repeaters, the validity coefficient obtained using average score is higher or equal to that obtained using any other score option for about 85 percent of the schools. For 30 of the 46 schools, a higher simple correlation between FYA and LSAT score is observed for total group data using average score for repeaters than for the data using scores for one-time test takers only.

Perhaps of greater interest to many law schools is the question of the effect on validity for the total group if repeaters are included in the analysis. When validity is estimated using data for the total group, that is, one-time test takers and repeaters combined using average score for repeaters, the resulting validity coefficient is equal to or higher than the validity coefficient based on the combination of UGPA and LSAT for one-time test takers alone at 35 of the 46 schools. At eight of the 11 schools showing lower coefficients, the difference is less than or equal to .02. Among the three remaining schools (numbers 7, 10, and 39,) the differences are only .04. These results are consistent with those reported by Pitcher (1977) and confirm that validity is not negatively impacted by including repeaters when average score is used. Further, the validity coefficients obtained using average score for repeaters combined with UGPA are equal to or higher than the validity coefficients obtained using either most recent, initial, or highest score for repeaters at 35 of the 46 schools. For 10 of the 11 schools at which this was not the case, the difference was .01. For school number 43, the validity coefficient obtained using either most recent or highest score exceeded that obtained using the average score by .02. Among the 11 schools at which a higher validity coefficient was obtained using other than average score, there was no prevalence with regard to score choice. That is, the validity coefficient using each score option—initial, highest, and most recent—exceeded the validity coefficient using average an equal number of times. Finally, the data in Table 6 demonstrate higher validity coefficients from the combination of LSAT score and UGPA than from using either predictor alone for one-time takers, for repeaters, or for total group, at every school.

Tables 7 and 8 show the validity (multiple correlation) coefficients and standardized regression weights for predicting first-year average from UGPA and LSAT score for the total group—one-time takers and repeaters combined. Four different regressions are estimated, using most recent, initial, highest, and average scores for repeat test takers. The regression weights are standardized so that they can be directly compared and so that the amount of weight assigned by the multiple regression procedure to each of the predictors, LSAT score and UGPA, can be readily observed. These data show that the relative weights are fairly

Table 7

Multiple Correlation Coefficients and Regression Weights for Predicting First-year Averages using Combinations of UGPA and Most Recent LSAT Score and UGPA and Initial LSAT score, Based on the Combined Group of One-time Test Takers and Repeaters

Law School	Multiple Correlation Coefficient	Standardized Regression weights		Proportional Regression weights		Multiple Correlation Coefficient	Standardized Regression weights		Proportional Regression weights	
		UGPA	Most Recent LSAT	UGPA	Most Recent LSAT		UGPA	Initial LSAT	UGPA	Initial LSAT
1	0.55	0.43	0.40	0.52	0.48	0.51	0.40	0.34	0.54	0.46
2	0.32	0.16	0.31	0.34	0.66	0.33	0.16	0.32	0.33	0.67
3	0.32	0.28	0.25	0.53	0.47	0.36	0.29	0.30	0.49	0.51
4	0.44	0.35	0.27	0.56	0.44	0.48	0.33	0.33	0.50	0.50
5	0.44	0.31	0.38	0.45	0.55	0.48	0.29	0.42	0.41	0.59
6	0.49	0.24	0.44	0.36	0.64	0.44	0.23	0.39	0.37	0.63
7	0.52	0.18	0.49	0.27	0.73	0.47	0.16	0.44	0.27	0.73
8	0.58	0.25	0.50	0.33	0.67	0.60	0.23	0.52	0.31	0.69
9	0.63	0.33	0.51	0.40	0.60	0.66	0.31	0.55	0.36	0.64
10	0.43	0.31	0.35	0.47	0.53	0.45	0.28	0.37	0.44	0.56
11	0.42	0.19	0.40	0.32	0.68	0.43	0.15	0.41	0.27	0.73
12	0.48	0.18	0.44	0.30	0.70	0.48	0.18	0.44	0.29	0.71
13	0.55	0.27	0.49	0.35	0.65	0.53	0.27	0.47	0.37	0.63
14	0.37	0.19	0.35	0.35	0.65	0.38	0.15	0.36	0.30	0.70
15	0.46	0.29	0.40	0.42	0.58	0.49	0.29	0.44	0.40	0.60
16	0.41	0.24	0.37	0.39	0.61	0.47	0.24	0.44	0.35	0.65
17	0.43	0.31	0.37	0.46	0.54	0.44	0.27	0.38	0.42	0.58
18	0.50	0.16	0.50	0.25	0.75	0.51	0.17	0.51	0.25	0.75
19	0.40	0.21	0.35	0.38	0.62	0.37	0.21	0.31	0.40	0.60
20	0.59	0.28	0.43	0.40	0.60	0.59	0.31	0.43	0.42	0.58
21	0.58	0.27	0.49	0.35	0.65	0.56	0.28	0.45	0.39	0.61
22	0.49	0.21	0.43	0.33	0.67	0.47	0.18	0.41	0.31	0.69
23	0.43	0.19	0.40	0.32	0.68	0.39	0.17	0.36	0.32	0.68
24	0.43	0.32	0.33	0.49	0.51	0.40	0.30	0.29	0.51	0.49
25	0.43	0.20	0.38	0.35	0.65	0.42	0.18	0.36	0.34	0.66
26	0.49	0.30	0.40	0.42	0.58	0.52	0.30	0.44	0.41	0.59
27	0.48	0.27	0.43	0.38	0.62	0.49	0.26	0.44	0.37	0.63
28	0.43	0.29	0.32	0.48	0.52	0.42	0.28	0.31	0.47	0.53
29	0.65	0.28	0.50	0.36	0.64	0.63	0.31	0.46	0.40	0.60
30	0.52	0.26	0.46	0.36	0.64	0.55	0.27	0.49	0.35	0.65
31	0.51	0.20	0.47	0.30	0.70	0.48	0.19	0.43	0.31	0.69
32	0.56	0.28	0.50	0.36	0.64	0.55	0.28	0.48	0.36	0.64
33	0.52	0.35	0.39	0.47	0.53	0.53	0.36	0.40	0.47	0.53
34	0.47	0.27	0.42	0.39	0.61	0.50	0.25	0.45	0.36	0.64
35	0.44	0.21	0.36	0.37	0.63	0.46	0.22	0.38	0.36	0.64
36	0.50	0.30	0.41	0.42	0.58	0.52	0.29	0.42	0.40	0.60
37	0.42	0.22	0.39	0.35	0.65	0.45	0.22	0.42	0.34	0.66
38	0.54	0.32	0.43	0.43	0.57	0.56	0.31	0.46	0.40	0.60
39	0.41	0.29	0.33	0.46	0.54	0.37	0.24	0.27	0.47	0.53
40	0.51	0.34	0.50	0.41	0.59	0.51	0.31	0.49	0.38	0.62
41	0.65	0.31	0.54	0.36	0.64	0.64	0.31	0.53	0.37	0.63
42	0.60	0.25	0.51	0.33	0.67	0.58	0.26	0.49	0.35	0.65
43	0.44	0.17	0.41	0.29	0.71	0.37	0.16	0.34	0.32	0.68
44	0.38	0.07	0.38	0.15	0.85	0.37	0.06	0.36	0.15	0.85
45	0.42	0.21	0.43	0.33	0.67	0.42	0.19	0.42	0.31	0.69
46	0.48	0.28	0.40	0.41	0.59	0.46	0.27	0.37	0.42	0.58
Pooled data	0.35	0.14	0.29	0.33	0.76	0.36	0.14	0.30	0.32	0.68

Table 8

Multiple Correlation Coefficients and Regression Weights for Predicting First-year Averages using Combinations of UGPA and Average LSAT Score and UGPA and Highest LSAT score, Based on the Combined Group of One-time Test Takers and Repeaters

Law School	Multiple Correlation Coefficient	Standardized Regression weights		Proportional Regression weights		Multiple Correlation Coefficient	Standardized Regression weights		Proportional Regression weights	
		UGPA	Average LSAT	UGPA	Average LSAT		UGPA	Highest LSAT	UGPA	Highest LSAT
1	0.55	0.42	0.39	0.52	0.48	0.56	0.42	0.41	0.51	0.49
2	0.33	0.16	0.31	0.34	0.66	0.29	0.16	0.28	0.37	0.63
3	0.35	0.29	0.29	0.51	0.49	0.36	0.30	0.30	0.50	0.50
4	0.47	0.34	0.32	0.52	0.48	0.44	0.35	0.27	0.56	0.44
5	0.48	0.32	0.43	0.43	0.57	0.46	0.32	0.41	0.44	0.56
6	0.48	0.24	0.44	0.35	0.65	0.45	0.23	0.40	0.37	0.63
7	0.52	0.16	0.48	0.25	0.75	0.52	0.17	0.49	0.26	0.74
8	0.61	0.24	0.53	0.31	0.69	0.59	0.25	0.51	0.33	0.67
9	0.66	0.32	0.55	0.36	0.64	0.63	0.33	0.51	0.40	0.60
10	0.45	0.30	0.38	0.45	0.55	0.45	0.32	0.37	0.46	0.54
11	0.44	0.17	0.42	0.29	0.71	0.44	0.20	0.42	0.32	0.68
12	0.51	0.18	0.47	0.28	0.72	0.49	0.18	0.45	0.29	0.71
13	0.57	0.27	0.50	0.35	0.65	0.56	0.27	0.50	0.35	0.65
14	0.41	0.17	0.38	0.31	0.69	0.38	0.19	0.36	0.35	0.65
15	0.48	0.29	0.43	0.41	0.59	0.46	0.29	0.40	0.41	0.59
16	0.46	0.25	0.43	0.37	0.63	0.42	0.24	0.38	0.39	0.61
17	0.47	0.30	0.41	0.42	0.58	0.43	0.32	0.37	0.46	0.54
18	0.52	0.17	0.52	0.25	0.75	0.50	0.16	0.50	0.25	0.75
19	0.39	0.21	0.34	0.39	0.61	0.39	0.21	0.34	0.39	0.61
20	0.60	0.29	0.45	0.39	0.61	0.59	0.28	0.44	0.39	0.61
21	0.59	0.27	0.49	0.36	0.64	0.59	0.27	0.49	0.36	0.64
22	0.49	0.20	0.43	0.31	0.69	0.49	0.21	0.43	0.33	0.67
23	0.42	0.18	0.39	0.32	0.68	0.43	0.19	0.40	0.33	0.67
24	0.42	0.31	0.32	0.49	0.51	0.43	0.32	0.33	0.49	0.51
25	0.44	0.19	0.39	0.33	0.67	0.44	0.20	0.38	0.34	0.66
26	0.52	0.30	0.44	0.41	0.59	0.49	0.30	0.41	0.42	0.58
27	0.50	0.26	0.46	0.37	0.63	0.48	0.27	0.43	0.38	0.62
28	0.43	0.29	0.33	0.46	0.54	0.42	0.29	0.32	0.48	0.52
29	0.65	0.29	0.49	0.37	0.63	0.65	0.27	0.50	0.35	0.65
30	0.56	0.26	0.50	0.35	0.65	0.52	0.26	0.46	0.36	0.64
31	0.51	0.20	0.46	0.30	0.70	0.51	0.21	0.46	0.31	0.69
32	0.56	0.28	0.50	0.36	0.64	0.56	0.28	0.50	0.36	0.64
33	0.54	0.35	0.42	0.46	0.54	0.52	0.35	0.39	0.47	0.53
34	0.50	0.27	0.46	0.37	0.63	0.48	0.27	0.43	0.39	0.61
35	0.47	0.21	0.39	0.35	0.65	0.44	0.21	0.36	0.36	0.64
36	0.52	0.29	0.43	0.41	0.59	0.50	0.30	0.41	0.42	0.58
37	0.45	0.21	0.41	0.34	0.66	0.42	0.21	0.39	0.35	0.65
38	0.56	0.31	0.46	0.40	0.60	0.54	0.32	0.43	0.43	0.57
39	0.41	0.26	0.32	0.45	0.55	0.42	0.29	0.35	0.45	0.55
40	0.53	0.34	0.52	0.39	0.61	0.50	0.34	0.49	0.41	0.59
41	0.65	0.31	0.54	0.36	0.64	0.65	0.31	0.54	0.36	0.64
42	0.60	0.25	0.51	0.33	0.67	0.60	0.25	0.51	0.32	0.68
43	0.42	0.17	0.39	0.30	0.70	0.44	0.17	0.41	0.29	0.71
44	0.39	0.07	0.38	0.15	0.85	0.39	0.07	0.38	0.15	0.85
45	0.43	0.21	0.44	0.32	0.68	0.43	0.21	0.44	0.33	0.67
46	0.48	0.28	0.40	0.41	0.59	0.48	0.28	0.40	0.41	0.59
Pooled data	0.36	0.13	0.30	0.30	0.70	0.35	0.14	0.29	0.33	0.67

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consistent regardless of which score option is used for repeaters and that for the majority of schools, the LSAT score is weighted more heavily than the UGPA. For approximately half the schools, the LSAT is weighted about twice as much as UGPA. At only four schools is the UGPA weight equal to or more than the LSAT weight. Only four schools (numbers 2, 4, 14, and 28) show much variation among the different LSAT scores for repeaters.

Predicting First-year Averages

Concern about the magnitude of the validity coefficients derive from concern about how to most fairly and accurately evaluate test scores included in law school application materials. One method to address the question of how to treat multiple scores from repeat test takers is to determine which LSAT scores most accurately predict performance in law school when combined with UGPA. Tables 9 and 10 present mean predicted grades for repeaters and differences between actual and predicted mean grades. Table 9 shows actual and predicted first-year averages for repeaters. Predictions are made by applying the multiple regression equation developed for the total group, one-time test takers and repeaters combined, to the data for the repeat test takers. First-year average is predicted separately using a combination of UGPA and each of the LSAT score options—most recent, initial, average, and highest. As in the study being replicated, the calculations and comparisons are made using each school's own grading scales, but all of the first-year averages have been converted to a scale where the mean for repeaters and one-time test takers combined is set to 50 and the standard deviation to 10. The conversion was made to preserve the confidentiality of the data and to allow comparisons across law schools. Unlike the study being replicated, the regression equations calculated from the combined data are used to predict first-year grades for repeaters. Although the results from the Gulliksen-Wilks analyses for the present study fail to confirm that the regression systems are identical for each group (repeaters and one-time takers) at each school, the decision was made to use the combined-group regression weights. The regressions estimated from the combined data are easily accessible, easily explained, and frequently used by the majority of schools. When schools participate in the LSAC Correlation Studies, regressions are based on the total group and, therefore, any applications of the recommendations from this study would most likely derive from the combined group regression equations. Clearly, if data support the need to rely on separate regression systems, they easily could be produced when sample sizes are sufficiently large. The data used for this study, however, reveal that among the 161 schools that participated in the 1987-88 Correlation Studies, only 46 had data for a sufficiently large number of repeaters to produce stable regression results for repeaters as a separate group.

A variant of the data presented in Table 9 is presented in Table 10. Table 10 shows the differences between actual and predicted first-year average. The actual first-year average earned by the test takeris subtracted from the first-year average predicted from the multiple regression equation. A negative value means that the multiple regression equation tends to underpredict performance in law school; likewise, a positive difference means that the multiple regression equation tends to overpredict performance. Prediction is fairly good for repeaters regardless of which score is used. The data in Table 10 confirm that most of the aggregate differences are not large. The weighted differences shown at the bottom of the table suggest that using the average score produces predicted means closest to the actual means and that using the other scores produces predictions that are about equally discrepant, albeit in opposite directions. Further, the data in Tables 9 and 10 suggest that using the highest or the most recent LSAT score for repeaters will tend to overpredict their law-school performance (43 and 40 overpredictions, respectively) and that using the initial score will tend to underpredict performance (42 underpredictions.) Use of average score tends to underpredict more frequently than overpredict (25 underpredictions), but the magnitude of the discrepancies is less, and across schools the difference is close to zero. Examination of the within-school differences also demonstrates that most frequently, the best prediction results from using average score (26 schools). Best prediction is defined as the smallest difference between predicted and actual first-year average. Use of initial score is most accurate for eleven schools, while highest or most recent score is most accurate for only four and five schools, respectively. These results are different from those reported by Pitcher (1977) who found initial score to underpredict first-year grades for repeaters but to be the least fair score option.

The data in Tables 9 and 10 are summary statistics averaged across all students. Average data do not necessarily describe each individual test taker. Table 11 shows the number and percentage of individual repeaters whose first-year average was overpredicted and underpredicted using each of the LSAT options. These data confirm the conclusions about the predictive accuracy suggested by the small degree of overprediction or underprediction seen in Tables 9 and 10, but they also highlight individual differences that are masked in the aggregate data.

Table 12 presents the standard deviations of the errors from the regression equations developed on

Table 9

Actual and Predicted Mean FYA for Repeaters

Law School	# of Repeaters	Mean FYA	Mean FYA Predicted from UGPA and:			
			Most Recent	Initial	Average	Highest
1	73	49.1	49.4	48.3	48.6	49.6
2	65	47.9	48.5	48.0	48.2	48.9
3	50	48.8	49.8	48.7	49.3	50.0
4	83	48.0	49.0	47.6	48.2	49.2
5	53	49.1	49.7	48.3	49.1	50.2
6	51	46.8	49.1	47.9	48.4	49.6
7	58	47.3	47.7	46.8	47.0	48.1
8	150	46.8	47.9	46.4	47.0	48.2
9	55	47.1	48.6	46.0	47.1	48.7
10	115	48.1	48.5	47.2	47.8	48.8
11	90	47.5	48.0	46.7	47.2	48.4
12	61	47.6	48.1	46.7	47.2	48.8
13	74	47.3	48.5	46.3	47.1	48.7
14	94	47.8	49.2	46.5	47.5	49.3
15	76	46.2	48.4	46.7	47.6	48.8
16	68	47.5	49.6	47.0	48.2	49.8
17	61	47.6	48.7	45.7	46.7	48.8
18	90	46.9	48.4	46.0	47.0	48.5
19	68	48.7	49.5	47.9	48.6	49.7
20	50	47.7	48.4	46.8	47.5	48.8
21	53	48.2	48.3	46.1	46.9	48.5
22	64	46.5	47.1	46.4	46.7	47.6
23	60	47.5	48.2	47.2	47.6	48.6
24	50	48.4	48.6	47.1	47.7	48.8
25	120	47.8	48.4	46.4	47.2	48.6
26	91	46.9	49.0	46.2	47.5	49.3
27	79	48.1	49.9	47.1	48.4	50.1
28	93	47.2	48.5	46.7	47.4	48.7
29	51	49.0	48.8	47.1	47.9	49.2
30	58	45.9	49.0	45.5	47.0	49.1
31	73	47.1	48.4	46.4	47.4	48.7
32	95	46.8	47.8	45.6	46.6	48.1
33	56	47.1	49.5	46.4	47.8	49.7
34	83	48.0	48.7	46.8	47.8	49.2
35	87	46.5	48.6	46.3	47.3	48.9
36	74	46.9	48.3	45.8	46.9	48.5
37	63	46.1	49.0	46.3	47.6	49.2
38	50	45.1	47.6	44.9	46.0	47.8
39	55	50.0	48.8	46.9	47.5	49.1
40	66	46.3	49.0	45.4	47.1	49.3
41	50	47.5	41.1	45.1	46.1	47.3
42	100	48.1	48.0	45.4	46.7	48.4
43	56	49.0	48.9	45.8	47.1	49.0
44	50	48.3	49.2	46.4	47.8	49.4
45	54	47.4	49.1	45.2	47.0	49.2
46	50	50.4	48.9	46.2	47.6	49.3
Weighted Average		47.5	48.6	46.6	47.8	48.9

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Table 10

Differences between Actual and Predicted Mean FYA for Repeaters

Law School	Differences between Mean Actual FYA and Mean FYA Predicted from UGPA and: Most Recent	Initial	Average	Highest
1	0.38	-0.75	-0.42	0.59
2	0.52	0.03	0.29	0.91
3	1.01	-0.05	0.49	1.21
4	0.96	-0.49	0.15	1.12
5	0.58	-0.84	-0.05	1.05
6	2.29	1.04	1.59	2.78
7	0.43	-0.50	-0.31	0.81
8	1.06	-0.39	0.26	1.37
9	1.51	-1.06	-0.02	1.63
10	0.43	-0.88	-0.33	0.70
11	0.51	-0.77	-0.27	0.84
12	0.47	-0.92	-0.47	1.14
13	1.27	-0.95	-0.12	1.47
14	1.38	-1.34	-0.34	1.48
15	2.21	0.50	1.38	2.54
16	2.08	-0.55	0.66	2.25
17	1.11	-1.87	-0.86	1.24
18	1.50	-0.85	0.17	1.66
19	0.80	-0.81	-0.11	1.01
20	0.68	-0.84	-0.14	1.13
21	0.14	-2.12	-1.23	0.38
22	0.63	-0.06	0.19	1.07
23	0.64	0.36	0.08	1.05
24	0.24	-1.26	-0.69	0.41
25	0.62	-1.32	-0.54	0.86
26	2.10	-0.71	0.62	2.35
27	1.77	-1.02	0.31	1.94
28	1.36	-0.44	0.29	1.55
29	-0.21	-1.96	-1.14	0.20
30	3.10	-0.33	1.17	3.28
31	1.31	-0.71	0.31	1.66
32	1.00	-1.15	-0.14	1.31
33	2.39	-0.62	0.70	2.60
34	0.72	-1.21	-0.24	1.18
35	2.13	-0.14	0.84	2.39
36	1.40	-1.03	0.02	1.65
37	2.87	0.19	1.50	3.08
38	2.51	-0.23	0.95	2.66
39	-1.22	-3.13	-2.50	-0.88
40	2.68	-0.93	0.75	2.95
41	-0.35	-2.34	-1.35	-0.17
42	-0.09	-2.73	-1.46	0.24
43	-0.11	-3.16	-1.90	0.02
44	0.93	-1.90	-0.52	1.13
45	1.74	-2.19	-0.37	1.83
46	-1.55	-4.17	-2.83	-1.11
Weighted Average	1.06	-0.97	-0.09	1.34

Table 11

Number and Percentage of Students whose FYA is Overpredicted or Underpredicted by UGPA and Different LSAT Scores for Repeaters

Law School	Average				Most Recent				Initial Score				Highest Score			
	over	under	% over	% under	over	under	% over	% under	over	under	% over	% under	over	under	% over	% under
1	29	45	39.2	60.8	37	37	50.0	50.0	30	44	40.5	59.5	38	36	51.4	48.6
2	40	29	58.0	42.0	40	29	58.0	42.0	38	31	55.1	44.9	40	29	58.0	42.0
3	24	29	45.3	54.7	29	24	54.7	45.3	23	30	43.4	56.6	28	25	52.8	47.2
4	44	39	53.0	47.0	45	38	54.2	45.8	41	42	49.4	50.6	46	37	55.4	44.6
5	25	28	47.2	52.8	27	26	50.9	49.1	22	31	41.5	58.5	28	25	52.8	47.2
6	28	23	54.9	45.1	32	19	62.7	37.3	27	24	52.9	47.1	33	18	64.7	35.3
7	27	34	44.3	55.7	28	33	45.9	54.1	27	34	44.3	55.7	28	33	45.9	54.1
8	79	73	52.0	48.0	87	65	57.2	42.8	74	78	48.7	51.3	87	65	57.2	42.8
9	29	27	51.8	48.2	32	24	57.1	42.9	25	31	44.6	55.4	31	25	55.4	44.6
10	60	56	51.7	48.3	60	56	51.7	48.3	58	58	50.0	50.0	61	55	52.6	47.4
11	48	43	52.7	47.3	52	39	57.1	42.9	40	51	44.0	56.0	52	39	57.1	42.9
12	30	33	47.6	52.4	34	29	54.0	46.0	29	34	46.0	54.0	35	28	55.6	44.4
13	34	40	45.9	54.1	39	35	52.7	47.3	30	44	40.5	59.5	39	35	52.7	47.3
14	45	49	47.9	52.1	50	44	53.2	46.8	42	52	44.7	55.3	51	43	54.3	45.7
15	42	35	54.5	45.5	48	29	62.3	37.7	37	40	48.1	51.9	50	27	64.9	35.1
16	39	31	55.7	44.3	43	27	61.4	38.6	33	37	47.1	52.9	44	26	62.9	37.1
17	28	33	45.9	54.1	34	27	55.7	44.3	25	36	41.0	59.0	34	27	55.7	44.3
18	51	41	55.4	44.6	53	39	57.6	42.4	47	45	51.1	48.9	55	37	59.8	40.2
19	32	37	46.4	53.6	36	33	52.2	47.8	32	37	46.4	53.6	37	32	53.6	46.4
20	27	24	52.9	47.1	28	23	54.9	45.1	26	25	51.0	49.0	28	23	54.9	45.1
21	25	28	47.2	52.8	26	27	49.1	50.9	21	32	39.6	60.4	27	26	50.9	49.1
22	32	32	50.0	50.0	32	32	50.0	50.0	34	30	53.1	46.9	35	29	54.7	45.3
23	36	28	56.3	43.8	35	29	54.7	45.3	36	28	56.3	43.8	38	26	59.4	40.6
24	23	29	44.2	55.8	27	25	51.9	48.1	22	30	42.3	57.7	27	25	51.9	48.1
25	55	65	45.8	54.2	65	55	54.2	45.8	54	66	45.0	55.0	66	54	55.0	45.0
26	51	43	54.3	45.7	58	36	61.7	38.3	44	50	46.8	53.2	56	38	59.6	40.4
27	40	39	50.6	49.4	47	32	59.5	40.5	32	47	40.5	59.5	47	32	59.5	40.5
28	48	46	51.1	48.9	51	43	54.3	45.7	46	48	48.9	51.1	51	43	54.3	45.7
29	27	27	50.0	50.0	29	25	53.7	46.3	22	32	40.7	59.3	31	23	57.4	42.6
30	35	24	59.3	40.7	38	21	64.4	35.6	32	27	54.2	45.8	38	21	64.4	35.6
31	36	38	48.6	51.4	40	34	54.1	45.9	33	41	44.6	55.4	39	35	52.7	47.3
32	49	47	51.0	49.0	57	39	59.4	40.6	48	48	50.0	50.0	55	41	57.3	42.7
33	32	25	56.1	43.9	39	18	68.4	31.6	30	27	52.6	47.4	39	18	68.4	31.6
34	53	35	60.2	39.8	56	32	63.6	36.4	44	44	50.0	50.0	55	33	62.5	37.5
35	47	41	53.4	46.6	52	36	59.1	40.9	41	47	46.6	53.4	55	33	62.5	37.5
36	40	35	53.3	46.7	44	31	58.7	41.3	38	37	50.7	49.3	46	29	61.3	38.7
37	39	24	61.9	38.1	38	25	60.3	39.7	33	30	52.4	47.6	40	23	63.5	36.5
38	30	21	58.8	41.2	32	19	62.7	37.3	27	24	52.9	47.1	32	19	62.7	37.3
39	24	34	41.4	58.6	25	33	43.1	56.9	23	35	39.7	60.3	26	32	44.8	55.2
40	40	27	59.7	40.3	45	22	67.2	32.8	36	31	53.7	46.3	45	22	67.2	32.8
41	25	26	49.0	51.0	29	22	56.9	43.1	21	30	41.2	58.8	29	22	56.9	43.1
42	40	60	40.0	60.0	49	51	49.0	51.0	32	68	32.0	68.0	50	50	50.0	50.0
43	25	32	43.9	56.1	30	27	52.6	47.4	22	35	38.6	61.4	32	25	56.1	43.9
44	27	25	51.9	48.1	31	21	59.6	40.4	23	29	44.2	55.8	31	21	59.6	40.4
45	27	29	48.2	51.8	32	24	57.1	42.9	26	30	46.4	53.6	31	25	55.4	44.6
46	24	31	43.6	56.4	28	27	50.9	49.1	24	31	43.6	56.4	29	26	52.7	47.3
Avg.	36.8	35.7	50.7	49.3	40.6	31.8	56.1	43.9	33.7	38.7	46.5	53.5	41.2	31.2	56.9	43.1

Table 12

Standard Deviations of Errors from Predicting FYA for Repeaters Using Regression Equations Developed on the Total Group of One-time Test Takers and Repeaters Combined

Law School	S.D. FYA	S.D. of errors from predicting FYA from UGPA and Most Recent LSAT	Initial LSAT	Average LSAT	Highest LSAT
1	9.0	7.3	7.8	7.4	7.2
2	10.6	10.0	10.0	10.0	10.3
3	10.0	9.7	9.5	9.6	9.4
4	8.3	7.4	6.9	7.1	7.4
5	9.8	9.3	8.7	8.8	8.9
6	10.2	8.6	9.6	8.9	8.9
7	8.8	8.3	8.9	8.4	8.4
8	9.5	7.9	7.6	7.5	7.6
9	8.4	7.4	6.5	6.6	7.3
10	9.0	9.0	8.6	8.6	8.8
11	9.2	8.6	8.3	8.2	8.2
12	9.6	8.9	8.9	8.4	8.6
13	9.8	8.6	9.0	8.4	8.4
14	9.9	9.6	9.4	9.2	9.4
15	10.2	9.4	9.3	9.2	9.2
16	10.3	10.1	9.4	9.5	9.9
17	9.5	9.1	8.5	8.4	9.0
18	11.0	9.2	9.1	9.0	9.2
19	9.6	8.4	9.0	8.7	8.6
20	8.8	7.2	7.2	6.9	7.1
21	10.8	9.2	9.3	9.0	9.1
22	7.7	8.0	8.3	8.0	8.0
23	10.0	9.3	9.9	9.5	9.3
24	9.9	9.2	9.6	9.3	9.3
25	8.5	7.4	7.6	7.3	7.3
26	9.2	8.3	7.8	7.8	8.1
27	10.2	9.5	9.3	9.1	9.4
28	10.7	10.0	10.2	10.0	10.0
29	10.1	7.7	8.1	7.7	7.6
30	9.1	8.4	8.2	8.0	8.3
31	10.0	8.9	9.6	9.2	9.0
32	8.8	7.3	7.7	7.3	7.3
33	9.4	8.4	8.6	8.2	8.4
34	9.7	8.5	7.7	7.7	8.3
35	10.9	9.9	9.8	9.6	9.8
36	10.2	9.2	8.9	8.9	9.1
37	9.2	8.6	8.6	8.6	8.6
38	10.0	8.4	8.3	8.1	8.3
39	9.2	8.9	8.8	8.6	8.7
40	9.4	8.3	8.7	8.3	8.5
41	11.0	8.0	7.8	7.7	7.9
42	9.8	7.6	7.8	7.4	7.6
43	10.2	7.9	9.2	8.4	8.0
44	8.6	7.1	7.6	7.1	7.0
45	10.1	9.6	9.2	9.2	9.3
46	10.9	8.6	8.8	8.4	8.6

the total group of one-time test takers and repeaters combined. There is little difference among these standard deviations regardless of which score option is used for repeaters. There is an overall tendency for the standard errors to be smaller for average score than for any of the other score options. These results are consistent with the similarities that are observed among validity coefficients for UGPA and LSAT score, regardless of which score is used.

Summary and Discussion

This study analyzed data from 46 law schools, each of which enrolled 50 or more first-year students who took the LSAT on more than one occasion. The study is a replication of a 13-year-old study that used LSAT scores that were earned on a previous version of the test and were reported on the 200-800 LSAT scale that was in use prior to June 1982. The present study, like the earlier one, was conducted to determine the validity of different scores and score-combinations for repeaters in order to provide guidance to score users regarding multiple scores presented by repeat test takers. Information about the instruction to users about how to use multiple scores from repeat test takers might also help prospective repeat takers evaluate the value to them of repeating the test.

In addition to validity data, the study also provides descriptive data comparing one-time test takers with repeat test takers. Consistent with the earlier study, repeat test takers tend to earn lower LSAT scores than one-time takers regardless of whether initial score, most recent score, or highest score is considered. Repeaters and one-time test takers tend to have performed comparably in their undergraduate academic work, but the one-time takers tend to earn higher first-year averages in law school than do their classmates who are repeat test takers.

The regression systems for the two groups, repeaters and one-time takers, are compared to determine the reasonableness of using a single equation based on the combination of the two groups. The results are only partially consistent with those reported by Pitcher (1977). That is, while the present study also found that the least amount of difference between regression systems for repeaters and one-time takers is evident when the average score is used for repeaters, the number of significant differences found is larger. The pattern of differences in regression systems is more like those reported by Linn (1982) in his analyses of the differences between black and white test takers. The largest number of discrepant systems is found as a result of using either highest or most recent score for repeaters. As in the results reported by Linn, using the combined group equations with highest or most recent score for repeaters tends to overpredict future law school performance for repeaters by about one fifth of the combined group standard deviation, or slightly more than one point on the standardized first-year grade scale.

Validity coefficients are computed for repeaters, for one-time takers, and for the total combined group using first-year average in law school as the criterion variable and UGPA alone, LSAT alone, and UGPA and LSAT in combination as predictors. Four different score options are used for repeaters—initial, most recent, highest, and average. Excluding repeaters from the validity computation does not result in larger validity coefficients. In fact, for the majority of schools (35 out of 46) the validity coefficients based on total-group data are equal to or greater than those obtained using one-time takers only. Using the different score options for repeaters also does not have much impact on the magnitude of the validity coefficients. However, across the 46 schools, using average score for repeaters, either alone or in combination with UGPA, tends to produce validity coefficients equal to or higher than the coefficients obtained using any of the other score options. As expected, the data confirm that using the combination of LSAT and UGPA produces higher validity coefficients for either group alone as well as for the total combined group. This is true for every school in the study.

Examination of the regression weights reveals that the proportion of weight assigned to LSAT and UGPA is quite consistent regardless of what score is used for repeaters. The data also show that for the majority of schools, the least-squares regression (i.e., prediction) equation weights the LSAT score more heavily than the UGPA. In fact, for about half the schools, the LSAT weight is about twice the UGPA weight. Again, these results parallel those reported by Pitcher.

A primary practical concern for score users is, "Which of the scores presented by repeat test takers will most accurately predict subsequent performance in law school?" Comparison of predicted first-year average with actual first-year average supports the advice that has historically been given. That is, in general, the arithmetic average of LSAT scores is the best predictor of performance in law school for repeat test takers. However, the data in this study, as in the previous study, demonstrate that this is not true for every applicant and that the differences obtained from using alternative score options are quite small. The data in the present study found that the average score is the best predictor for the majority of law schools and that the initial score is the next best predictor. This latter

finding is quite different from the results previously reported by Pitcher. She found that initial score produced the most deviant predicted means and concluded that use of initial score would be unfair to repeater applicants. She also found that most recent scores are generally higher than average scores and speculates that this would be expected if the group of test takers who repeat the LSAT are self-selected to include a disproportionate number of those who did not for some reason score as high as they should have the first time. We might hypothesize that the different findings between the two studies might be a consequence of intensive test preparation or coaching among more recent repeaters. That is, for some repeat test takers most recent scores earned today might be inflated as a consequence of intensive test preparation and, therefore, less predictive of law-school performance. When Pitcher's study was conducted, avenues for test preparation were not so readily available and more repeat test takers may have elected to repeat because of a mishap on the day of the test than because they had engaged in intensive test preparation. The relationship between repeaters and intervening test preparation deserves further study.

The data presented in this report underscore the need to consider individual circumstances when evaluating scores for repeat test takers. That is, although the aggregate statistics confirm that overall, using the average score for repeaters provides a higher validity coefficient and hence, more accurate prediction of first-year grades, there are individual test takers for whom this is not the case. For example, in some instances, the initial score provides the best prediction because intervening preparation might inflate the highest and average scores resulting in overpredicted subsequent law school performance should these latter score options be used in developing prediction equations. In other cases, the initial score does not accurately reflect the ability of the test taker and the test taker may have self-selected to repeat the test in order to obtain a more accurate reflection of his or her ability. As important, among the different score options for repeaters, the differences in validity are not large.

If a general rule that will be most fair to the majority of repeaters is to be applied, the data continue to confirm that average score is the most accurate predictor. Regardless, score users need to be sensitive to individual differences among test takers and evaluate multiple scores in the context of additional information.

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